

**STATE OF MAINE**

**DEPARTMENT OF MARINE RESOURCES**

<b>IN THE MATTER OF THE APPLICATION OF ) AQUA FARMS LIMITED LIABILITY COMPANY ) (LLC), FOR AN AQUACULTURE LEASE ) LOCATED OFF BANGS ISLAND, CUMBERLAND, ) CUMBERLAND COUNTY, MAINE )</b>	<b>FINDINGS OF FACT, CONCLUSIONS OF LAW AND DECISION</b>
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On October 30, 2001, Aqua Farms Limited Liability Company (LLC), of South Portland, Maine, applied for an aquaculture lease totaling 2.0 acres of coastal waters of the State of Maine, located west of Bangs Island, in Cumberland, Cumberland County, Maine. The applicant requested the lease for a term of ten years for the purpose of cultivating blue mussels, Mytilus edulis, using suspended culture techniques. The application was accepted as complete on November 26, 2001. A public hearing on this application was held on December 5, 2002 at 1:00 p.m. on Chebeague Island.

The proposed lease area in the application is currently leased to Aqua Farms as a limited-purpose (experimental) lease which expired April 1, 2002. As provided in 12 M.R.S.A. §6072-A(20), Aqua Farms was permitted to continue its operations under the experimental lease because they submitted a completed application prior to the expiration of the experimental lease.

Approval of aquaculture leases is governed by 12 M.R.S.A. §6072. This statute provides that the Commissioner of the Department of Marine Resources (DMR) may grant a lease if he determines that the project will not unreasonably interfere with the ingress and egress of riparian owners, navigation, fishing or other uses of the area, taking into consideration the number and density of aquaculture leases in an area; the ability of the site and surrounding areas to support ecologically significant flora and fauna; or the use or enjoyment within 1,000 feet of municipally, state or federally owned beaches, parks, or docking facilities. The Commissioner must also determine that the applicant has demonstrated that there is an available source of organisms to be cultured for the lease site.

## **Evidence Concerning the Nature and**

### **Impact of the Proposed Lease**

The evidentiary record before the Department regarding this lease application includes the Department file, including the application and the Department site report, and the record of the December 5, 2002 public hearing. Tollef Olson, representing Aqua Farms LLC, and Jon Lewis, the Department's Aquaculture Environmental Coordinator, provided testimony at the hearing.

According to the application and the testimony by Mr. Olson, Aqua Farms proposes to continue the suspended culture of blue mussels it has been conducting on the lease area under an experimental lease granted in April 1999. The 108.9' by 800' lease area contains three 40' by 40' rafts referred to as a Kames Raft System. Each raft holds 400-500 dropper ropes, 35 feet in length, to which the mussels are attached and grown. Predator nets are located around the perimeter of each raft. The predator nets are 35' to 40' long with a 4" mesh size. The mooring system is comprised of four 8,000 pound granite blocks. The blocks are attached to approximately 60 feet of one inch single chain tackle, which in turn is attached to approximately 120 feet of one and a half inch polyplus line. The mooring system has been in place for over two years and has withstood winds as high as seventy knots and three foot seas.

Seed stock is obtained from Tighrope Seafarms in the Blue Hill Salt Ponds and from Aqua Farms' mussel rafts in Casco Bay. Generally, seeding takes place in the fall and spring, but there is also a limited amount of seeding throughout the year using the undersized mussels harvested on the rafts. Grow out takes place over 6 to 18 months. Maintenance and harvesting on site takes place year round three to five days per week. The rafts are serviced using a twenty-foot Carolina Skiff and a 41-foot pontoon barge with a twenty-foot beam. The applicant accesses the lease site from boat ramps located in Portland, South Portland, or Falmouth. The barge is not powered and is moved by the skiff. It is not permanently moored at any particular

location. The barge is moored either on one of Aqua Farms' lease sites or at the applicant's mooring near his home in South Portland.

According to the application, the rafts are already in production with seed to market size mussels. The maximum annual production is three hundred thousand pounds. There is a maximum density of two million eight hundred thousand mussels per raft. The applicant testified that production levels under a standard ten year lease will remain the same as they were during the period of the limited purpose lease.

The predator nets are cleaned when bio fouling occurs, usually during the summer. The nets are dropped to the bottom and removed for cleaning on shore. The applicant testified that he would agree to a lease condition stating that he is responsible for the removal of his predator nets that are dropped to the bottom.

According to the application, the lease area is located west of Bangs Island. The owner of Bangs Island is the State of Maine. There is some recreational use of the island. According to the applicant, the lease site does not interfere with access to the island.

According to the testimony of Mr. Olson and the application, the lease site is located in approximately 60 feet of water at high tide, east of the main navigational channel. Current navigational uses of the area include light recreational traffic and lobster boats. The lease site is marked with radar reflectors to alert potential navigators. The applicant provided a letter from Cumberland Harbormaster Ted Curtis regarding existing uses of the area. Mr. Curtis stated that the lease area would not adversely impact navigation.

The applicant contacted Phil Bozenhard of the Department of Inland Fisheries and Wildlife (IF&W) and confirmed that the lease area is not within an essential habitat. A letter from Mr. Bozenhard is attached to the application.

Commercial and recreational fishing near the lease area, according to the applicant, consists of commercial lobster fishing on and around the site, and recreational fishing of pollock, mackerel and striped bass. The applicant testified that lobstermen fish close to the rafts on the lease area and there have been no problems associated with lobster fishing on the site. There

were no comments submitted nor testimony provided by any fishermen regarding the lease application. The experimental lease for this area contains two conditions regarding lobster fishing on the lease site: 1. lobster and crab fishing are allowed on the open areas of the lease; and 2. the leaseholder will clear all lobster gear that becomes tangled with his equipment when the owner identifies his equipment to the leaseholder. The applicant testified that he agrees to continue with the same conditions on a standard lease.

The applicant conducted an environmental baseline survey of the lease area and provided the results of the survey in the application. The information for the survey was gathered on July 28, 2001 in a series of five dives transecting the site diagonally. The information obtained was compared to the diver evaluation conducted prior to the limited purpose lease application for the area. According to the application, mussel drop-off has created more diversity of flora and fauna. The areas beneath the rafts have common mussel populations and an increase from rare to common lobster habitation. Green and rock crabs and starfish are abundant under the rafts. There is a moderate amount of mussel shells and kelp can be found attaching to the shells. The areas between the rafts have changed little from the original dive surveys and remain mud bottom. The low and high tide depths are estimated at 43 and 53 feet. The current flow is tidally driven and flows northwest on the flood and southeast on the ebb.

Due to the change in benthic conditions under the rafts in the lease area, Mr. Olson was questioned as to whether he would be willing to monitor the site by SCUBA diving under the rafts and to provide an annual monitoring report to the Department. Mr. Olson testified that he would be willing to monitor the site and provide an annual report.

The Department's Aquaculture Environmental Coordinator (AEC) and his assistant conducted a site visit at the proposed lease area on July 11, 2002. The AEC created a site report summarizing the information obtained during the site visit and provided testimony regarding his site report at the public hearing. According the AEC's testimony and the site report, the lease site is located approximately 300 feet west of Bangs Island in water depths ranging

from 54.4 to 58.6 feet at high tide and 45.99 to 50.19 feet at low tide. The lease site is also located approximately 1,791 feet east of the main navigational channel.

According to the site report, no moorings, other than those associated with the applicant's existing gear, were observed on or around the lease site. Bangs Island is an undeveloped island owned by the State of Maine. In the AEC's opinion, the proposed lease activities will not interfere with riparian ingress and egress, nor access to moorings.

According to the AEC, the proposed activities are not expected to interfere with navigation in the area, which consists of lobster fishing vessels, and small recreational vessels, such as kayaks. The majority of all vessel traffic is expected to occur outside the western boundary of the proposed lease site, in the main navigational channel.

Fishing activity in the area of the proposed lease, according to the site report, consists of lobster fishing on and around the lease site. The nearest aquaculture lease, aside from the existing limited purpose lease on the site, is located 5 miles to the west. The area of the proposed lease is classified as open for the harvest of shellfish.

In preparing the site report, the AEC obtained comments regarding the proposed lease from the Cumberland Harbormaster, Ted Curtis, and Marine Patrol Officer Thomas Hale. Mr. Curtis indicated that the area west of Bangs Island is isolated and poses no navigational hazards. He also stated that the only fishing in the area is lobster fishing and occasional recreational fishing. Mr. Hale indicated that during the three years the limited purpose lease operated, he did not receive any complaints. He stated that the lease area is located well outside the navigational waters and fishing in the area is limited to lobster fishing and recreational fishing for striped bass.

The AEC testified regarding the results from his July 11, 2002 SCUBA diver survey of the lease area. This survey was compared to the survey of October 1998, which was conducted during the lease application process for the limited purpose lease. The bottom conditions of the lease area outside the footprints of the rafts are similar to those observed in 1998. The bottom of the lease site consists primarily of flat mud bottom. The topography is flat and mostly barren.

The AEC testified, however, that he observed a significant change in benthic conditions from those observed in 1998, directly under the rafts. The bottom composition under the rafts changed from a flat, barren mud bottom to a slightly firmer mud bottom completely covered in mussels and sea stars. The accumulation of mussels under the rafts from drop-off has resulted in the appearance of large numbers of sea stars and crabs feeding on the mussels. He also observed patches of *Beggiatoa* sp. and anoxic sediments due to the nutrient load from the dead mussels. He indicated that such conditions could lead to decay. He did note that all of the observed impacts were contained within the footprints of the rafts. The AEC also used an instrument to measure the level of dissolved oxygen at the site. He testified that he noticed a slight reduction in dissolved oxygen at the rafts, but the reduction was not biologically significant.

Due to the AEC's findings, he suggested monitoring the conditions under the rafts in order to study the effects of mussel rafts on the benthic environment. He testified that the applicant should look for the start of the disappearance of the crabs and stars from the lease area, and to look for anoxic conditions. As the changes have occurred only under the rafts, the AEC does not anticipate any widespread effects outside of the lease area.

### **Findings of Fact**

The proposed lease site is located approximately 300 feet west of Bangs Island. Access to the proposed lease site would be by boat from the boat ramp in Portland, South Portland or Falmouth. The only riparian owner within 1,000 feet of the lease area is the owner of Bangs Island, the State of Maine. There are no moorings, other than those associated with the applicant's existing gear, on or around the lease site. Based on this evidence, I find that the lease will not unreasonably interfere with the ingress and egress of riparian owners.

The proposed lease is located in water depths of approximately 45.99 to 50.19 feet at low tide, 1,791 feet from the main navigational channel. Navigation in the area consists of lobster fishing vessels and small recreational boats. The lease site is located well outside the navigable waters. The majority of all vessel traffic is expected to occur in the main navigational channel.

Based on the foregoing, I find that the proposed lease will not unreasonably interfere with navigation.

Fishing in the area of the proposed lease site consists of lobster fishing and occasional recreational fishing. The applicant will allow lobster fishing and recreational fishing within the boundaries of the lease. The nearest existing aquaculture lease is located approximately 5 miles west of the proposed lease area. The area of the proposed lease is classified as “open” for the harvest of shellfish. I find that the proposed lease will not unreasonably interfere with fishing or other uses of the area.

Existing flora and fauna observed at the proposed site consists of a new population of mussels, stars, and crabs, which was created by the drop-off of mussels from the rafts. These new populations are contained within the footprint of the three rafts and therefore do not appear to create any widespread impacts. The remainder of the lease site, outside the footprints of the rafts, continues to consist of a flat mud bottom. Based on this evidence, I find that the proposed lease activities will not unreasonably interfere with the ability of the site and surrounding areas to support existing ecologically significant flora and fauna. However, due to the change in benthic conditions under the rafts, the applicant is required to perform annual SCUBA dives to monitor benthic conditions at the lease site and shall submit the results of the dives in an annual written report to the Department.

All seed shellfish will be obtained from Tigtrope Seafarms in the Blue Hill Salt Ponds and from Aqua Farms’ mussel rafts in Casco Bay. Based on this evidence, I find that there is an available source of blue mussels.

The proposed lease site is not located within 1,000 feet of any municipally, state, or federally owned beaches, parks or docking facilities. Based on this evidence, I find that the proposed lease site activities will not unreasonably interfere with public use or enjoyment within 1,000 feet of any municipally, state, or federally owned beaches, parks, or docking facilities.

### **Conclusions of Law**

Based on the above findings, I conclude that:

1. The aquaculture activities proposed for this site will not unreasonably interfere with the ingress and egress of any riparian owner;
2. The aquaculture activities proposed for this site will not unreasonably interfere with navigation;
3. The aquaculture activities proposed for this site will not unreasonably interfere with fishing or other uses of the area, taking into consideration the number and density of aquaculture leases in the area;
4. The aquaculture activities proposed for this site will not unreasonably interfere with the ability of the lease site and surrounding areas to support existing ecologically significant flora and fauna;
5. The applicant has demonstrated that there is an available source of blue mussels to be cultured for the lease site; and
6. The aquaculture activities proposed for this site will not unreasonably interfere with public use or enjoyment within 1,000 feet of municipally, state or federally owned beaches, parks, or docking facilities.

The evidence in the record supports a finding that the proposed aquaculture activities meet the requirements for the granting of an aquaculture lease set forth in 12 M.R.S.A. §6072.

### **Decision**

Based on the foregoing, the Commissioner grants the requested aquaculture lease of 2.0 acres to the applicant for a period of ten (10) years from the date of this decision for the purposes of cultivating blue mussels using a three raft system for suspended cultivation techniques. The applicant shall pay the State of Maine rent in the amount of \$50 per acre per year. The applicant shall post a bond or establish an escrow account in the amount of \$5,000 conditioned upon its performance of the obligations contained in the aquaculture lease documents and all applicable statutes and regulations.



### **Conditions to be Imposed on Lease**

The Commissioner may establish conditions that govern the use of the lease area and impose limitations on aquaculture activities. Conditions are designed to encourage the greatest multiple, compatible uses of the lease area, while preserving the exclusive rights of the lessee to the extent necessary to carry out the purposes of the aquaculture law.

The following conditions are placed on this lease:

1. the required lease markings shall be limited to marking of the moorings and structures in accordance with U.S. Coast Guard requirements;
2. lobster fishing and recreational fishing shall be allowed on the open areas of the lease;
3. the leaseholder will clear all lobster gear that becomes tangled with his equipment when the owner identifies his equipment to the leaseholder;
4. the leaseholder shall remove all predator nets from the bottom of the lease area; and
5. the leaseholder shall conduct annual SCUBA dives on the lease site in order to monitor the benthic conditions of the lease area. Results of the dives shall be submitted to the Department on a reporting form to be provided to the leaseholder. The report shall be due annually in the fall.

The Commissioner may commence revocation procedures if he determines that substantial aquaculture has not been conducted within the preceding year or that the lease activities are substantially injurious to marine organisms. If any of the conditions or requirements imposed in this decision, in the lease, or in the law are not being observed, the Commissioner may revoke the aquaculture lease.

**Dated:** \_\_\_\_\_

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**George D. Lapointe (Commissioner)**  
**Department of Marine Resources**